

Exploring Learning Opportunities in Nursing Education:
Uncloaking Conceptual Ideas through Case Based Learning

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Abstract

The need for quality nursing practice in today's complex health care delivery system has led to much debate over the past decade as to education preparation for the novice nurse beginning practice. At graduation, nurses are expected to quickly identify, process, and analyze information in order to solve critical, and in many cases, life-threatening problems in a health care environment that is experiencing rapidly changing technology, while maintaining a holistic focus on the patient and family (Rideout, 2001). Nurse educators are pressured by a need to *cover* the content in a program of nursing due to high stakes testing (Tanner, 2004; 2007). This *no nurse left behind* dilemma has led nursing faculty to neglect how students learn to think. Despite calls for reform from influential medical and nursing organizations, a traditional content based curriculum remains the primary mode of education delivery for the majority of baccalaureate nursing programs in the US. Changing the focus from content laden curriculum to concept based learning strategies may prove to be useful for nursing educators as it will address the need to engage student nurses in current and future evidenced based nursing practice. Although concept based learning is used in other education settings, there is limited research on the impact of conceptual based education strategies in nursing education. This paper will discuss the need for a different focus for nursing education by examining nursing education through the lens of political, organizational, and learning perspectives and explore appropriate research frameworks to explore and understand this change.

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“Tell me and I will forget; show me and I may remember; involve me and I will understand.”

-Confucius

Nursing is a complex, ever evolving practice based profession that has seen considerable changes and increasing sophistication over time. Today's nurse is a hybrid professional with many roles, skills, and obligations such as those seen in teachers, lawyers, engineers, ministers, physicians, psychotherapists, social workers, and institutional managers. At nursing's core, remains the expectations for caring, advocacy, and ministering to the needs of those who are ill (Shulman, 2010). Pulling from this rich mixture of skill resources, nurses continuously make decisions which have significant impact in the care of their patients. They are expected to quickly identify, process, and analyze information in order to solve critical, and in many cases, life-threatening problems in a health care environment which is rapidly changing by advancing technology, while maintaining a holistic focus on the patient and family (Rideout, 2001). Always placing the patient and family's concerns at the center of their work; the nurse is the patient's last line of defense in a complex health care system. Therefore, nurses must have an educational foundation which prepares them to practice safely, accurately, and compassionately, in varied settings, where knowledge and innovation increase at an astonishing rate (Benner, Sutphen, Leonard, & Day, 2010).

In order to keep up with the increasing complexity of the nursing profession and prepare students for practice, content has been systematically added to many nursing courses, particularly those focused on acute and chronic health challenges. The resulting content saturation of nursing courses has been an evolutionary process with contributing factors such as the shift from the

industrial age to the information age, changes in health care delivery, outdated or ineffective pedagogy, content repetition, regulatory obligations, and the academic-practice gap (Giddens, Brady, 2007). This crowded curriculum has raised tensions within the nurse educators who struggle to determine viable course content; what to include (Kantor, 2010), and what to leave out (Ironsides, 2004).

Compounding these tensions is the reliance on conventional pedagogy where instruction is teacher-centered and information is disseminated with the expectation that students will gain cognitively (Kantor, 2010), and thinking will follow (Cody, 2002). Students experience frustration when trying to comply with excessive reading assignments, content processing, and memorization required by oversaturated courses (Diekelmann, 2002) and insufficient or outdated pedagogical practices (Benner, Sutphen, Leonard, & Day, 2010). Rather than filling students' heads with a laundry list of facts, faculty focus needs to be on strategies which help students learn a consistent approach to understanding patient needs, develop appropriate responses, and revise care plans appropriately, based on a wide range of considerations (Nielsen, 2009). The 2010 Institute of Medicine report on the Future of Nursing Education emphasizes a need to move away from the additive curriculum toward a curriculum that emphasizes competent performance through active learning. Students need to be taught in a way that better integrates the classroom and clinical and prepares them to function in clinical situations that require answers to; What is the patient experiencing? What are your nursing concerns? What information do you need? What actions need to be taken? (Benner et. al., 2010).

Changing the focus to concept based learning strategies may prove to be useful for nursing educators. Nielsen (2009) studied the use of clinically grounded concept-based learning and teaching and found it helpful for students' development of practical knowledge and in-depth

understanding. Erickson (2007) uses the term concept to describe a construct that frames a set of examples sharing common attributes that are timeless, universal, abstract, and broad. Concept-based learning, a non linear approach to education, allows students to apply concepts or universal generalizations across time, cultures, or situations (Erickson, 2007) or construct new ideas or concepts based upon their current or past knowledge (Brandon, All, 2010). For example, the concept of infection would be taught using the mechanisms, measurements, assessments, and management principles of infection and how these principles apply in various populations, settings, kinds of diseases, and stages of illness (Giddens, & Brady, 2007).

Concept-based learning activities provide several advantages for student learning. These include an opportunity for focus on in-depth understanding, critical thinking about assessment findings, and connecting findings to nursing care and patient outcomes (Nielsen, 2009). This approach provides students with a form of pattern recognition or cognitive connections which they can more easily recall and apply in a variety of patient cases and situations, or to new paradigms which may arise in future situations. Although this type of educational strategy may be well known to those working in the field of education, there is limited research on the impact of conceptual based education strategies specific for nursing education. Therefore, the purpose of this paper is to address this aforementioned gap and gain a broader understanding of opportunities and research possibilities for conceptual learning in nursing education.

Theoretical frameworks from core doctoral coursework will be used to examine nursing education through the lens of political, organizational, learning perspectives, and research frameworks. Previous work from a variety of research paradigms will also be examined to identify future opportunities for improving educational curricula. I will begin by describing the contribution of historical beginnings and politics which have helped shape nursing education into

its current pedagogical framework. A historical perspective is explored first in order to provide context for understanding the ties between our evolving health care system and the structure of nursing education. Following that exploration is a discussion on organizational leadership through the lens of metaphor and how varying viewpoints on the use of power shape educational design. Next is a view of teaching and learning theories that can inform the development of the *ideal nurse*, and finally a discussion on research paradigms, their role in curricular development, and recommendations.

My experience as a nurse for over 30 years gives me a unique perspective. In that time I have practiced in various healthcare settings such as operating suites, critical care units, rehabilitation units, acute care hospitals, long term care facilities, clinical and classroom teaching at the community and university level with undergraduate students, and community volunteer work in disasters. I have experienced life through the eyes of many individuals whom have entered the health care system, each with their unique story and path, each adding to my understanding and building on what and how I learned in nursing education.

With each of these case-based experiences, I have had my conceptual learning strengthen, adding to previous nursing assessment and response patterns and building my skill set. These nursing skills are assessed no matter what the situation may entail. For example, unlike the challenges of working in an intensive care unit or even during the earthquake which took place in my hometown, Hurricane Katrina was my first challenge traveling to an unknown city to perform unknown duties with an unknown population. I had to reach inside and apply what I knew. It is this idea that *experienced nurses pull from a rich conceptual framework of patterns and responses* that drives my desire to explore formative learning opportunities in nursing education.

Educational Policy and Political Processes

“It was her letter-writing to influential people that helped Nightingale revolutionize health care and nursing education. Moreover, it was the acceptance around the world, of her ideas about sanitation, education, and separation of nursing and medicine that contributed to her ability to facilitate change.”

- Mason, Leavitt, & Chaffee, 2007

Historical Beginnings in Nursing

Health care politics, nursing practice, and nursing education are historically interwoven. The profession of nursing rose from the early political efforts of women during the *Woman Movement* (1848-1920), as women sought political control of their personal lives and looked to change laws that regulated their families, education, and political freedom. The patriarchal composition of American family life at this time in history consisted of women tending to home and children, and men controlling the workforce and politics. It was taken for granted by many that because women provided care to their own families, they would automatically control the profession of nursing, however, historical roots in the church and military fostered patriarchal control (Mason, Leavitt, and Chaffee (2007). For example, although both men and women have served in the military performing nursing duties, the practice and control of nursing had been under the US Army Medical Department since 1775.

Significant actions by educated nurses during wartime had a major impact on policy for nursing education. Proponents of a more organized form of nursing education began with Clara Barton. She worked during the Civil War (1861-1865) with women volunteers who served as nurses, in developing a systematic approach to delivering aid, assistance, and medical supplies to wounded soldiers. The high patient mortality rates and the need to control infectious diseases

raised concerns that more formalized education was needed for nurses serving in wartime. It was not until after the involvement of skilled civilian nurses during the 1898 Spanish-American War, did the military see the value of nursing and a need for them to be organized with a department separate from medicine. As a result, the Army Nurse Corps was authorized by Congress in 1901 as a permanent department for female nurses (Office of the Army Surgeon General, Public Affairs, and the Directorate of Information Management, 2010). Although under patriarchal oversight of the military, this was the first time women in nursing were officially recognized for their uniquely significant contribution, helping to strengthen the evidence between quality patient outcomes and educated nurses.

The Army Nurse Corps program was a major policy decision designed to train nurses in the techniques of acute, life-saving care on the battlefield, as well as preventing infection and the spread of contagious disease while soldiers healed from their wounds. The military continues to hold high standards for nursing personal, minimum education required to join the military as a nurse today is the baccalaureate degree in nursing (BSN) (Office of the Army Surgeon General, Public Affairs, and the Directorate of Information Management, 2010).

The modern definition for nursing in America officially began with the political activism of Florence Nightingale. On October 21, 1854 during the Crimean War, Nightingale, together with a contingent of 38 volunteer women were dispatched to Turkey to the aid of wounded British soldiers. Nightingale's observations and actions regarding the lack of fresh air, proper food, and sanitation became a driving force behind modernizing nursing and military nursing in particular. What made her particularly effective was that she was well educated, dedicated, and able to convey her message tying nursing measures with healthcare outcomes to the political establishment of Great Britain (Mason, Leavitt, and Chaffee (2007).

Florence Nightingale laid the foundation of professional nursing education worldwide with the establishment, in 1859, of her nursing school at St Thomas' Hospital in London, the first secular nursing school in the world. Nightingale's successful ideas about sanitation and an 'educated' nurse was sought to reform the deplorable conditions found in hospitals throughout the United States. Her book *Notes on Nursing* first published in 1860 became the framework for nursing, spurring many colleges to make policy decisions to establish nursing education programs. For example, the first U. S. Nightingale-influenced nurse training school opened at the Bellevue Hospital School of Nursing in New York in 1873. The John Hopkins School of Nursing was founded in 1889 in consultation with Florence Nightingale and by 1910 the number of schools reached 1129 (Mason, Leavitt, and Chaffee (2007).

Politics and Formal Nursing Education

Formal education for nurses in the late 19th century first took place in hospitals using an apprenticeship model. Practicing nurses would instruct and mentor students, teaching them the skills necessary to care for patients admitted to their wards, with students learning on the job from trial and error. Hospital administrators wanted these nursing schools because student labor was cheaper than employing graduate nurses. This method, however, often left significant gaps of knowledge, with nurses learning only about diseases, conditions, and injuries encountered within their own direct experience (Mason, Leavitt, and Chaffee, 2007). Stokowski (2011) gives an example of nursing courses near the end of the 19th century for fundamentals of nursing care with the following:

- “The dressing of blisters, sores, burns and wounds; the application of fomentations, poultices, cups, and leeches;
- The administration of enemas;
- The management of trusses and appliances for uterine complaints;
- The best method of friction to the body and extremities;

- The management of helpless patients: making beds, moving, changing, giving baths in bed, preventing and dressing bedsores, and changing positions;
- Bandaging -- and making bandages, rollers, and splints;
- Preparing, cooking, and serving delicacies for the sick;
- Practical methods of supplying fresh air, warming and ventilating sick-rooms;
- Keeping all utensils perfectly clean and disinfected; and
- Making accurate observations and reports to the physician of the state of secretions, expectoration, skin, pulse, appetite, temperature, delirium or stupor, breathing, sleep, condition of wounds, eruptions, formation of matter, effect of diet or of stimulants or medicines” (pg. 1).

This sample curriculum from a school of nursing opening in Chicago in 1882, would take a little more than 2 years to complete. During this time, students worked 12 hour shifts 7 days a week with 1 afternoon off per week, without pay; essentially as free staff for the hospital. Your *salary* was your education. Learning was secondary to working. Evening lectures were given by physicians or supervising nurses on subjects such as obstetrics, surgical emergencies, anatomy, physiology, electricity, pharmacology, bathing, and massage after the student’s daily work obligations were met. Exams on these lectures would be given periodically; however, the overall program emphasized practice over theory. Practice commanded a 90% share of a student’s time (Stokowski, 2011).

Once the training period was over, the school provided no support. Graduate nurses found themselves working in private duty or public health in which directories and fee schedule control was provided by physicians or pharmacists as opposed to nurses. This exploitation of student and graduate nurses contributed to the strong political stance of the early professional nursing organizations which began forming between 1893 and 1912. Table 1 summarizes significant nursing organizations, as well as two philanthropies, their current title, and a description of their influence on nursing education and practice. These organizations serve to provide a political avenue for development of the nursing profession (Mason, Leavitt, and Chaffee, 2007).

Table 1.

History of Interest Groups & Influence for Nursing Practice and Education

Year	Founding Organization	Current Title	Description of influence
1863	National Academy of Sciences	Institute of Medicine (IOM) Established 1970	Asks and answers the nation's most pressing questions about health and health care. Adviser to the nation to improve health.
1893	American Society of Superintendents of Training Schools for Nurses	National League for Nursing (NLN)	Accreditation for schools of nursing, faculty development programs, networking opportunities, testing and assessment, nursing research grants, and public policy initiatives
1901	U. S. Army Medical Department	Army Nurse Corps	The work of contract nurses during and following the 1898 Spanish-American War demonstrated the need for a permanent female nurse corps. BSN required since 1971 to serve as nurse in military.
1908	Nurses' Associated Alumnae of the United States and Canada (1908)	American Nurses Association (ANA) Oregon Chapter is (ONA)	Advances the nursing profession by fostering high standards of nursing practice, promoting rights of nurses in workplace, projecting positive and realistic view of nursing, and lobbying the Congress and regulatory agencies on health care issues affecting nurses and the public.
1908	The National Association of Colored Graduate Nurses (NACGN)	Merged with ANA in 1951	Dedicated to promoting the standards and welfare of Black nurses and breaking down racial discrimination in the profession. Integrated African-American nurses into the armed forces
1908	National Organization of Public Health Nursing (NOPHN)	Merged with NLN in 1952	Set standards for public health nursing service and education.
1972	Robert Wood Johnson Business leader for Johnson & Johnson 1936 through 1975.	Robert Wood Johnson Foundation (RWJF) founded 1972	Largest philanthropy devoted exclusively to health and health care. Funds grants for research such as IOM.
1978	American Nurses Association (ANA)	National Council of State Boards of Nursing (NCSBN). Split from ANA	Nurse licensure examination development and regulation: NCLEX.
1988	American Association of Colleges of Nursing (AACN)	Commission on Collegiate Nursing Education (CCNE)	Officially recognized by the U. S. Secretary of Education as a national accreditation agency. CCNE ensures the quality and integrity of baccalaureate, graduate, and residency programs in nursing in higher educational institutions and acute care hospitals.
2001	Oregon Nursing Leadership Council (ONLC)	Oregon Center for Nursing (OCN) created in 2002	Leadership to solve the nursing workforce shortage in Oregon. Collaborative work & coordination of programs, projects and initiatives. Example: Oregon Consortium for Nursing Education (OCNE).

Note. List of significant organizations which contributed to political changes and growth in the professionalism of nursing over the years. Adapted from "Policy and politics in nursing and health care," by D. Mason, J. Leavitt, and M. Chaffee, 2007; "U.S. army medical department: U.S. army nurse corps," by Office of the Army Surgeon General, Public Affairs, and the Directorate of Information Management, 2011; "About OCN" by Oregon Center for Nursing accessed at www.oregoncenterfornursing.org, 2011.

Political skills of individual nurses which developed through mentoring, education, and direct experience contributed significantly to the evolution of nursing as a profession. Cohen, Mason, Kovner, Leavitt, Pulcini, & Sochalski (1996) constructed a conceptual framework which describes the nursing profession political development as a process of four stages; buy-in, self-interest, political sophistication, and leading the way.

- Stage one: Buy-in. The reactive stage in which the profession realizes the importance of political involvement. Activities include development of political action committees (PAC). It is not uncommon for nurses today to be active in local communities but continue to believe that politics is irrelevant to their work.
- Stage two: Self-interest. Occurs when the nursing profession develops its identity as a special interest. Activities include creating a task force to solve issues at work, developing coalitions of nurses, to crafting legislation to expand practice.
- Stage three: Political sophistication. Recognition by policymakers as having valuable expertise. Activities include testimony before legislators or appointment to policy-making body.
- Stage four: Leading the way. When nursing *sets the agenda* for change. Activities include appointments outside nursing such as department head in state or federal government. (Cohen, Mason, Kovner, Leavitt, Pulcini, & Sochalski, 1996).

The political actions of Florence Nightingale inspired many nurses in her time to become active through the political process in shaping the destiny of their profession. Coalitions were formed as nurses realized the importance of political involvement, interest groups became active in the legislative process, and nurses became involved in bigger political issues in society. Most significantly, was the 1920 ratification of the Nineteenth Amendment to the United States Constitution prohibiting citizens to be denied the right to vote based on sex. This opened many doors for nurse pioneers who sought to transform health care and improve the health of individuals, families, and communities through political activism.

It was not until the last half of the twentieth century that nursing began to focus on issues related to education and research and expanding their practice. Two new controversial roles in

nursing curricula include certification for the clinical nurse leader (CNL) in 2007 and in 2004, the doctorate of nursing practice (DNP). Each of these advanced educational degrees is designed to produce nursing leaders in our health care community who can address the changing demands of this nation's complex healthcare environment (AACN, 2007).

According to the AACN (2007) the role of the CNL was designed to provide leadership in the health care delivery system across all settings in which health care is delivered. The CNL functions as a provider and a manager of care at the point of care to individuals and cohorts through the process of "...coordinating, delegating and supervising the care provided by the health care team, including licensed nurses, technicians, and other health professionals"(p.6). CNL education prepares practioners for credential at Master's level as an advanced generalist.

The DNP degree was designed to enhance and replace the current Masters program for nurse practioners and elevate it to the practice doctorate level by the year 2015. This move is in the direction of other health professions with practice doctorates such as Medicine (MD), Dentistry (DDS), Pharmacy (PharmD), Psychology (PsyD), Physical Therapy (DPT), and Audiology (AudD). According to the AACN Fact Sheet (2010) on DNP education, factors for change in nursing education at the graduate level includes: "the rapid expansion of knowledge underlying practice; increased complexity of patient care; national concerns about the quality of care and patient safety; shortages of nursing personnel which demands a higher level of preparation for leaders who can design and assess care; shortages of doctorally-prepared nursing faculty; and increasing educational expectations for the preparation of other members of the healthcare team" (p.1).

The Politics of Regulation

The high mortality rates of patients and scattered skill sets of nurses educated in the late 19th century apprenticeship nursing programs signified a need for a more formalized evaluation of nursing education and practice, and hence, additional policy development. Nursing practice regulation was sought by leaders of state nursing associations at the state level as a method to transform their field by placing the power of the state behind their efforts. The New York State Nurses Association, the nation's oldest and currently largest state professional association for registered nurses, proposed the first registration act. New Jersey, North Carolina, and Virginia Nurses Associations began seeking legislation for registration around the same time. In 1903 the first bill allowing nurses to register after receiving an education from an approved school became law in North Carolina. By 1923 all 48 states had passed some form of nursing licensure (Mason, Leavitt, and Chaffee, 2007).

The purpose of regulation is to provide for public protection by ensuring safe, competent nurses are in practice. New York passed the first mandatory nurse license legislation in 1938, although the shortage of nurses in World War II delayed implementation until 1947. A regulatory scheme was created to accomplish the following:

- “1. Restricts who can practice by requiring licensure of the individual
 2. Establishes qualifications for licensure
 3. Limits the use of the term *nurse*
 4. Defines what constitutes practice
 5. Provides grounds for loss of a license
 6. Creates an agency (the board) to monitor and enforce the regulatory requirements”
- (Mason, Leavitt, and Chaffee, 2007, p. 736).

Today the profession of nursing is highly regulated in the United States. Although nurse licensing articulates from state to state, nurses must possess a license from the state in which they plan to practice before they can perform the duties as a nurse. A license to practice nursing

in Oregon is issued by the Oregon State Board of Nursing (OSBN). Members of the OSBN board are appointed by the governor and include two public members, four Registered Nurses (RNs), two Licensed Practical Nurses (LPNs), and one Nurse Practitioner (NP). The OSBN is responsible for interpretation of Nurse Practice Act, determines licensure and certification requirements, evaluation and approval of nursing programs, issues licenses and renewals, investigates complaints and takes disciplinary action against violators, and provides testimony to the legislature (OSBN, 2010).

“The laws that regulate nurses and nursing assistants are known as the Nurse Practice Act (Oregon Revised Statutes, Chapter 678. 010-678. 445). Any changes in the law must be made by the legislature. This law grants the OSBN authority to write administrative rules (Divisions 1-63) that further define the law. These rules have the effect of law and help define safe and competent practice. The OSBN can change administrative rules, and the public can provide comment and input during the rulemaking process” (OSBN, 2010).

The license exam itself evolved from essay format in 1920's to *objective-type* in 1930's. In 1944, 15 states administered the first state board test pool examination (SBTPE) and by 1950 all 48 states used this format. The National Council of State Boards of Nursing (NCSBN) split off from the American Nurses Association (ANA) in 1978 to manage the exam process with the goal that “...ultimately public safety and protection of nurses could be more effectively regulated” (Benefiel, 2011, p.17).

In 1982 the licensure examination changed in format from a medical model to a nursing emphasis, underwent reduction of test questions from 720 to 480 based on Bloom's taxonomy at the application and analysis level, and a name change to National Council Licensure Examination (NCLEX) RN. The current exam is a computerized adaptive test (CAT) which provides an individualized interactive test, is changed as appropriate every 3 years to reflect current practice, and has mutual recognition across all 50 states (Benefiel, 2011).

Policy Actors and Nursing Education Recommendations

According to Fowler (2004), identification of individuals and groups at the state level, referred to as policy actors, is important because these actors play key roles in the development of educational policy. Governmental actors at the state level which oversee nursing education processes include the state legislature, the governor, the state board of education (SBE), and the state department of education (SDE).

Influential nongovernmental policy actors, known as interest groups (as seen in Table I), are associations of individuals or organizations with one or more lobbyists, who operate under the euphemistic title “legislative liaison” for the purpose of a) establishing the relationships that facilitate their access to governmental policy actors and b) providing these governmental actors with information about their organization’s key issues. The business lobby, which represents individuals in business and trade associations, health-care corporations, hospital associations, individual corporations, and manufacturers, are among the most influential policy actors in every state capitol, followed by teachers’ unions (Fowler, 2004).

The current influential policy actors, shown earlier in table 1, which have significant impact for nursing education in Oregon include the American Association of Colleges of Nursing (AACN), the National League for Nursing (NLN), the Oregon Center for Nursing (OCN), the Oregon Consortium for Nursing Education (OCNE), the Robert Wood Johnson Foundation (RWJF), the Oregon Nurses Association (ONA), and the Institute of Medicine (IOM).

At this pivotal period in the history of health care in the United States; President Barack Obama signing the *Patient Protection and Affordable Care Act* into law on March 23, 2010, and

the 2010 extensive IOM report on The Initiative on the Future of Nursing, nurses have a great opportunity to make significant impact on the design of future health care in America.

In 2008 the RWJF and the IOM partnered to establish a 2-year Initiative on the Future of Nursing, tasked with producing an action-oriented blueprint for the future of nursing, which included changes in public and institutional policies at the national, state, and local levels. The resulting 587 page report documents significant recommendations for nursing education, calling for “...strengthening the largest component of the health care workforce—nurses—to become partners and leaders in improving the delivery of care and the health care system as a whole” (Institute of Medicine, 2011, xi). The IOM and RWJF report recommends changes focused on four key messages:

1. Nurses should practice to the full extent of their education and training.
2. Nurses should achieve higher levels of education and training through an improved education system that promotes seamless academic progression.
3. Nurses should be full partners, with physicians and other health professionals, in redesigning health care in the United States.
4. Effective workforce planning and policy making require better data collection and an improved information infrastructure. (IOM, 2011)

Spurred with the promise of healthcare reform, the IOM and RWJF report contains a wealth of researched recommendations and action-oriented and blueprints for transforming nursing and nursing education; strong evidence that well educated nurses produce better health care outcomes. Schools of nursing can seek local and state support following many of the blueprints for action in the IOM report. For example, the Oregon Consortium for Nursing Education (OCNE) curricular redesign project which has lead to educational policy changes in the way Oregon nursing schools collaborate. These changes provide a more cohesive pathway for nursing students to obtain the IOM recommended minimal degree of BSN in nursing. Politics and health care have been interwoven throughout history and have a major impact on the

evolution and design of nursing education. Understanding of historical roots and political participation processes can bring about promising changes our nation's health care. Health care reform provides an opportunist catalyst for nursing to engage in policy and provide leadership in the organization of high-quality, and effective health care services our country.

Organizational Leadership

“To bring health to a system, connect it more of itself. The primary change strategy becomes quite straightforward; the system needs to learn more about itself for itself. ”

-Margaret J. Wheatley, 1999

At three million members, nurses represent the largest segment of the health care workforce. Their work includes close regular proximity to patients and scientific understanding of care processes across the continuum of care in practice environments, including hospitals, schools, homes, retail health clinics, long-term care facilities, battlefields, and community and public health centers (IOM, 2011). Therefore, in exploring new strategies for nursing education, it may be useful to consider key features of existing organizational models to shed light on current management or present new paradigms in the work environments of nurses.

Organizational Metaphors, Avenues for Understanding

According to Morgan (2006), all theories of leading and management are based on implicit images or metaphors that lead us to see, understand, and manage organizations in distinctive yet partial ways. The metaphors presented in this paper are intended to be used to find fresh ways of seeing, understanding, and shaping the environments and situations that organize and manage nursing work and education. Acceptance of any single theory or perspective which is brought to the study of organization and management, while capable of creating valuable insights, is also incomplete, biased, and potentially misleading. The use of multiple metaphors to illuminate an organization reflects an attempt to offset the inherent limitations of any single perspective (Morgan, 2006). The specific metaphors in this paper were chosen because they transmit enormous amounts of information and richness on the history and evolution of nursing work and nursing education.

In the book *Images of Organization*, Morgan (2006) identifies eight metaphors for illuminating organizations. These metaphors are: organizations as machines; organizations as organisms; organizations as brains; organizations as cultures; organizations as political systems; organizations as psychic prisons; organizations as flux and transformation; and organizations as instruments of domination. Through the combined use of several metaphors, the mind develops a visual image for understanding the impact of complex theories and philosophies of organization. For purposes of this paper, I am limiting exploration of nursing work in health care organizations to the machine, culture, organism, and flux and transformation metaphors. Concepts associated for these metaphors and their impact on nursing are summarized in table 2.

Table 2.

Impact of Organizational Metaphor on the Work Environment of Nurses

Metaphor	Associated Concepts	Application to Nursing Work
Machines	Efficiency, waste, maintenance, order, clockwork, cogs in a wheel, programs, inputs and outputs, standardization, production, measurement and control, design	Compartmentalization, Standards of care Goals and objectives, Shift work, Uniforms, Time management, Workarounds, Functional nursing care model
Cultures	Society, values, beliefs, laws, ideology, rituals, diversity, traditions, history, service, shared vision and mission, understanding, qualities, families	Mission statement, Quality promotion programs, Health care ethics, Best practice initiatives, Residency programs for new graduates
Organisms	Living systems, environment conditions, adaptation, life cycles, recycling, needs, homeostasis, evolution, survival of the fittest, health, illness	Committees, Shared governance, JACHO Dedicated Educational Units, Team nursing care model
Flux and Transformation	Constant change, dynamic equilibrium, flow, self-organization, systemic wisdom, attractors, chaos, complexity, butterfly effect, emergent properties, dialectics, paradox	Health care vortex Evidence Based Practice Complex Adaptive Systems Multidisciplinary Teams

Note: Joint Commission on Accreditation of Healthcare Organizations (JACHO) is source for performance measure data of healthcare organizations for approval of state reimbursement such as Medicare. Adapted from "Images of Organization," by G. Morgan, 2006.

Organizations as Machines

Using the organization as machines metaphor, a comparison can be made in regards to early development of health care organizations and the compartmentalization created by mechanistic divisions, different hierarchical levels, functions, and roles. The core value in the machine metaphor is control. Work is task divided with emphasis on productivity and duties. A popular nursing work model for this type of organization is the *functional* model of care delivery which emerged in the 1940s during World War II, when demand for nurses overseas resulted in a shortage of RNs stateside. This time efficient model requires fewer RNs with non-RN tasks assigned to licensed practical nurses (LPN) and ancillary staff. Nursing interactions with patients is focused on tasks to be completed, and orders to be followed with an assembly line approach to care. For example the RN or LPN administers all medications and the nursing assistant provides patient care tasks such as bathing, feeding, and mobility. This model of care remained popular until the early 1960s and is still popular in most convalescent or skilled nursing centers.

Effective policies and procedures such as outcomes-based assessment and care planning, and patient care standards are still used today in many institutions to define the work of nurses. Although the machine metaphor provides rational and technical processes to organizations, this imagery tends to underplay human aspects which are much more complex, uncertain, and difficult than those that can be performed by most machines (Morgan, 2006). A major drawback of this metaphor is the bureaucratic nature which develops from compartmentalization. For example, if the RN is only focused on passing medications for multiple patients, his/her focus becomes narrowed on *the task* rather than *the patient*. Essential patient information is missed. There is concern about fragmentation of care and the inability to find someone who accepts accountability for the total patient (Tiedeman, Lookinland, 2004).

The mechanistic approach to health care tends to limit rather than mobilize the development of human capacities, molding human beings to fit the requirements of mechanical organization rather than building the organization around their strengths and potentials (Morgan, 2006). The organization loses out when the rich and creative problem solving abilities of nurses regarding patient care and advocacy are restricted. Concerns, issues, and ideas that have no avenue for expression or become underappreciated contribute to an environment which negatively impacts the work of nurses. This type of work paradigm is one of the major contributing factors leading to job burnout and attrition. A literature review by Cline, Reilly, and Moore (2004) found that production pressures in hospitals force nurses into an accelerated work pace, strips them of the meaning of their profession, and removes the joy of caring for others that nurses so desire.

Organizations as Cultures

Morgan (2006) refers to culture as patterns of development reflected in a society's system of knowledge, ideology, values, laws, and day-to-day ritual. The use of culture metaphor in organization reveals the process of reality construction that allows people to see and understand particular events, actions, objects, utterances, or situations in distinctive ways. According to Kaminski, (2006), the current cultural phenomenon of the healthcare system is highly influenced by the mechanistic organization of the industrial era. These influences consist of input-output flows (selection, prioritization, performance/quality control, discharge/disposal, and serving consumption, consumers of the product/commodity), a command structure (hierarchy), and a complex division of labor. Its ideology is codified in policies, procedures, rules, and regulations. Nursing culture is situated within organizational culture that is further situated within the overarching culture of the healthcare system.

The nursing culture taught in many nursing education courses today reflects the historical values of Florence Nightingale with professional ideals of autonomy, empowerment, and reflective practice. This ideology of *what nursing should be* passed on to students in schools of nursing clashes with the highly bureaucratic institutions in the current healthcare system. Students are taught in nursing schools to influence change, conduct both qualitative and quantitative research, inquire in phenomenological ways, to advocate, to empower, and to develop empathy and respect for the unique lives of patients and families. The culture of nursing practice in the healthcare system is shaped by management initiatives such as *best practice* which creates a performance marker that may support the achievement of institutional standards but, restricts the activity and autonomy of nurses in general (Kaminski, 2006).

Student nurses primarily learn about the nursing culture and profession through the lived experience of the clinical practice that they are exposed to in their integrated learning classes, rather than classroom experiences. Yet, this bureaucratic social structure is known to be an overwhelming context for nursing students as well as new novice nurses creating a reality shock. Students working with staff nurses in the clinical setting must adapt to the environment by *thinking on the move*, such as accepting short concise explanations (if their preceptor nurse is busy), and taking a back seat to priority situations. Kaminiski (2006) discusses clinical nursing experience as, “the socialization process which includes enculturation (how students learn and identify with their own professional culture) and acculturation (how students assimilate selected aspects of other professional cultures)” (p. 15).

In response to the above culture shock experienced by novice nurses, the Institute of Medicine (2010) strongly recommends implementation and evaluation of nursing residency programs for all new graduate nurses. The New graduate residency programs are 6 month long

new employee support programs whereby the new graduate is paired with a seasoned preceptor to promote enculturation of novice nurses into the culture of health care. The new nurse continues to get support after the 6-month intensive preceptor relationship ends for up to a full year (NCSBN, 2010).

Organizations as Organisms

The organismic metaphor is based on biology with relational components such as molecules, cells, complex organisms, species, and ecology. According to Morgan (2006), these concepts are metaphorically paralleled to those between individuals, groups, organizations, populations (species) of organizations, and their social ecology. In any ecosystem, individual organisms are independent and have their own identity, yet coexist and are dependent on each other for the maintenance of the whole system and therefore their survival (Levin, 1998). This metaphor for organization originated in the 1950s and 1960s from the work of theoretical biologist von Bertalanffy's General Systems Theory (GST) as a means of linking different scientific disciplines. This living organism model provides an avenue for understanding of the behavior of organizations in general. Clinical health care settings for example can be seen as complex open systems. This open-systems approach includes three main areas of focus; the environment, interrelated subsystems, and congruencies or alignments between systems (Morgan, 2006).

For health care, organizational open system interactions with the environment would include individual clinical settings such as hospitals and clinics (competitors providing services), the needs of patients (interactions with consumers), suppliers of goods (schools of nursing, medical equipment suppliers, medical groups), governmental and regulatory agencies (Medicare, DRGs, JACO, HMOs, insurance companies), and the general environment (city, state, nation).

Focus for success is dependent upon the ways the health care organizations respond to changes in task and contextual environments, its ability to bridge and manage critical boundaries and areas of interdependence, and its ability to develop appropriate operational and strategic responses (Morgan, 2006).

Interrelated subsystems in a health care organization are thought of wholes within wholes. For example, within a hospital organization there are *individuals* (nurses, therapists, technicians, social workers, etc.) who work in *departments* (Maternity, Physical Therapy (PT), and Radiology). The overall health and function of the organization is dependent upon strategic management of connections between these unique subsystems and the environment and recognition about how everything depends on everything else. This concept, illustrated in Figure 1, gives an idea of how nursing practice and nursing education is viewed through the lens of systems theory.

Morgan (2006) describes the *contingency theory* perspective as an example for breaking free from bureaucratic thinking and creating management strategies which meets the requirements of the environment. The main ideas are as follows:

- “Organizations are open systems that need careful management to satisfy and balance internal needs and to adapt to environmental circumstances.
- There is no one best way of organizing. The appropriate form depends on the kind of task or environment one is dealing with.
- Management must be concerned, above all else, with achieving alignments and good fits.
- Different types or species of organizations are needed in different types of environments”

(Morgan, 2006, p. 42)

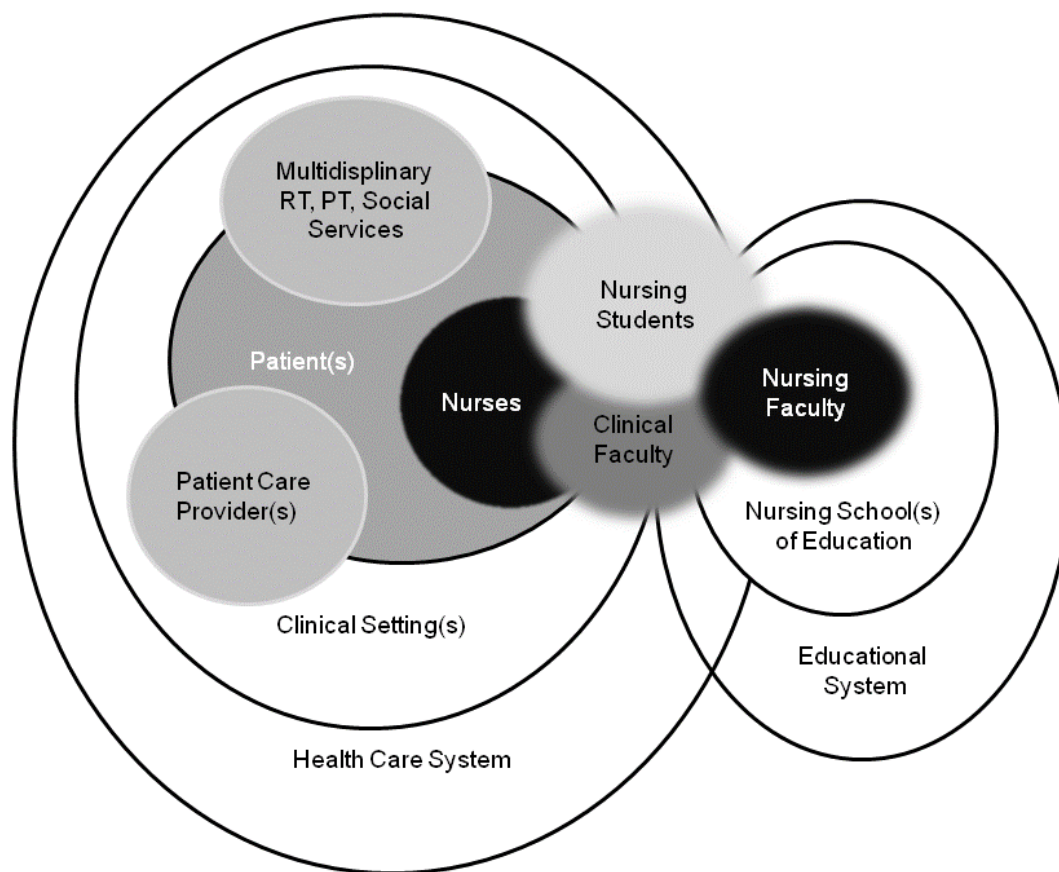


Figure 1. Systems theory organization applied to health care and nursing education. Close proximity of nursing students, clinical faculty, nursing faculty, and nurses represents higher degree of interactions. Patient care providers include MDs, Nurse Practitioners, and Physician's Assistants. Clinical setting can be hospitals, outpatient clinics & offices, or long term care facilities. The educational system includes public and private universities or community colleges. Adapted from "Images of Organization," by G. Morgan, 2006.

Students cement their study of nursing concepts by applying them in practice with individual case scenarios in conjunction with licensed nursing staff and clinical instructors. Conceptual learning occurs as students develop pattern recognition through observation and participation in the work of staff nurses as they provide care (Ard, & Valiga, 2009). A very important nursing education strategy recently implemented within the last 3-5 years to improve student integration in the clinical and help better align academic theory with nursing practice reality in healthcare environments is a dedicated education unit (DEU). A DEU is a special nursing unit within a clinical setting whereby all nurses working on the unit are dedicated, in

collaboration with the school of nursing, in creating a positive culture of learning for the students. The organization of this environment is such that nurses that are on the DEU clinical units are trained in teaching roles, mentored and supported by the clinical faculty, and expected to work with students in a collaborative supportive manner (Moscato, Miller, Logd, Weinberg, & Chorpenning, 2007; Edgecombe, Wotton, Gonda, & Mason, 1999).

Organizations as Flux and Transformation

Morgan (2006) uses the four unfolding logics of change; autopoiesis, chaos and complexity, circular relations, and opposites, as lenses for understanding organizational flux and transformation. The first logic, autopoiesis, offers the idea that although systems can be recognized as having environments, relations with any environment are internally determined. In other words, the way we see and manage change is a product of how we see and think about ourselves. The second logic, chaos and complexity emphasize organization and environment as elements of the same interconnected attractor pattern. Therefore, the focus is on pattern evolution and order emerging from randomness. The third logic, circular relations, refers to the unfolding nature of change in a nonlinear pattern or loop. The last logic, opposites sees tension for change. These concepts from complexity science provide a great framework for understanding nursing work and educational challenges.

Evolving for over 40 years, the science of complex adaptive systems (CASs) emerged in response to the unpredictable activity of phenomena under study in many scientific disciplines. Chaffee and McNeil (2007) examined how complexity science can be applied to the profession of nursing to gain new insight in examining systems during times of rapid change, and offer an alternative to existing organizational paradigms. They designed a conceptual model using CAS to provide a valuable tool for organizing, shaping, and guiding thinking regarding how nurses

function in the healthcare system. Their metaparadigm of nursing consists of four main concepts; human being, nursing, health, and environment. The complex nature of nursing knowledge, as shown in figure 2, provides a lens from which to view key components and relationships within the system which can be applied to development of new approaches to nursing science practice, leadership, research, and education required in today's practice (Chaffee, McNeil, 2007).

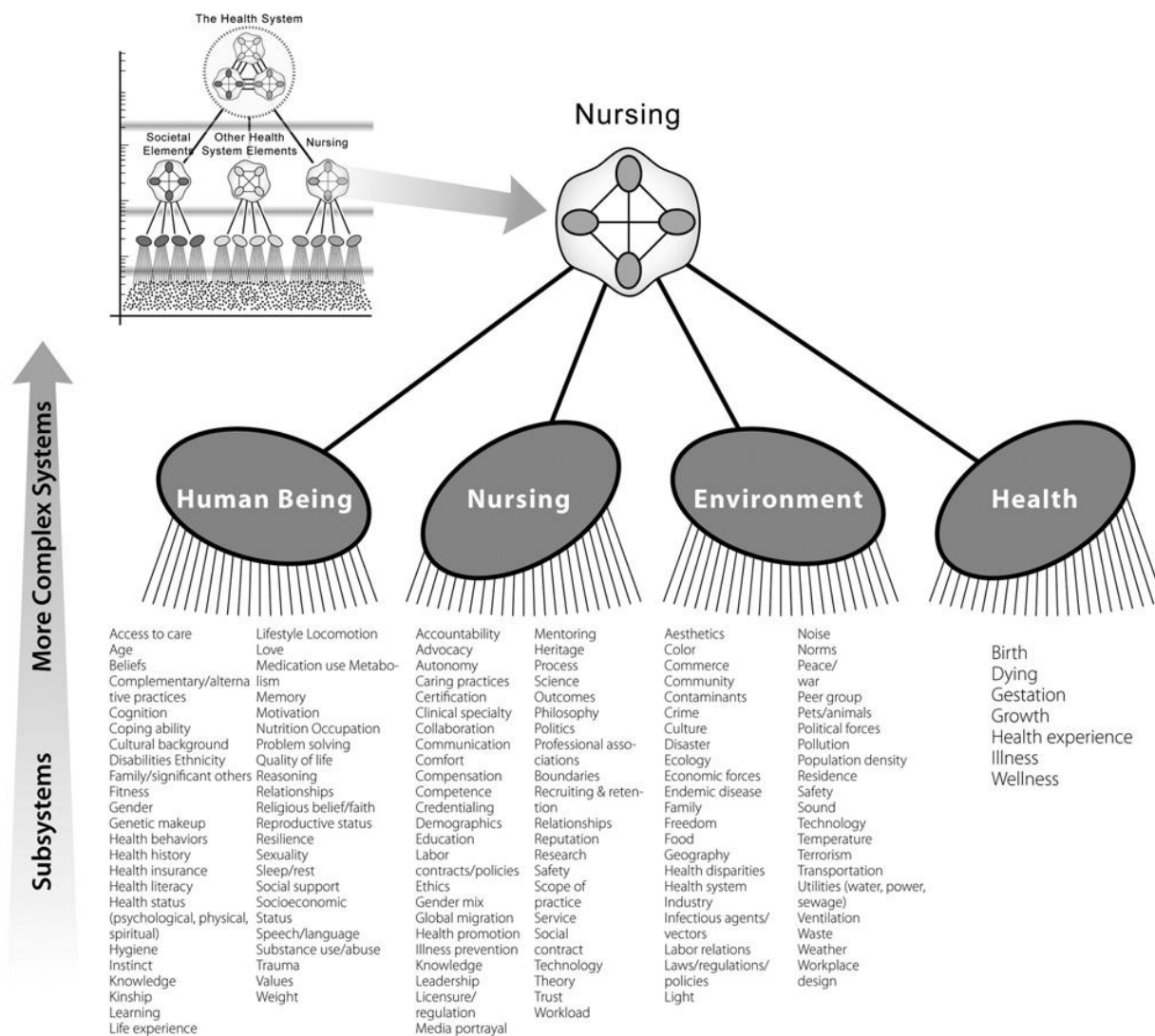


Figure 2. The metaparadigm of nursing as a complex adaptive system with underlying subsystems and concepts. Illustrates the components of nursing as well as where nursing fits in the healthcare system as a whole. Adapted from "A model of nursing as a complex adaptive system," by M. W. Chaffee and M. M. McNeil, 2007, *Nursing Outlook* 55(5) p. 238.

Organizational Structure: Avenues for Change

Insights gained when nursing is viewed as a complex adaptive system provides nurses with a powerful opportunity to design research, leadership decisions, policy, and clinical practice in new ways. As seen in figure 3, the nurse remains central as the patient's line of defense in a complex health care system.

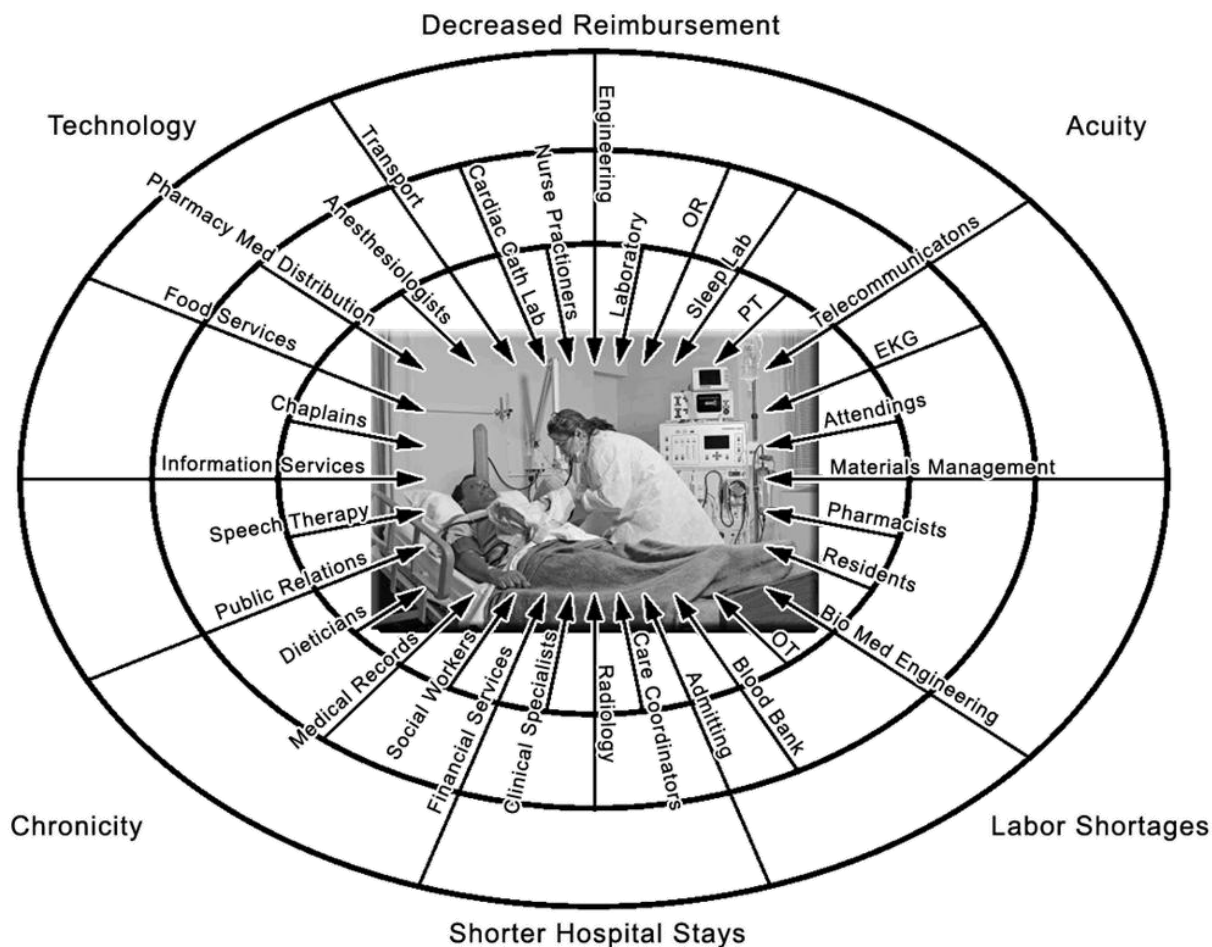


Figure 3. Example of complexity theory to describe the work environment for nurses in the acute care setting. Arrows depict many of the players directly or indirectly involved in delivering healthcare to one person, and interactions nurses' must manage with other subsystems (individual agents and groups). Inner circle represents more direct contact with the individual. Adapted from "The partnership care delivery model" by M. Wiggins, 2006.

This complexity viewpoint helps to illustrate an understanding of how the components that comprise nursing education evolved and developed over the years into an additive curriculum

despite best efforts to unpack concepts rather than cover the content. Another significant insight is the importance of quality leadership skills in all nurses to promote best practice through innovation and change at every level in the system. A recent Carnegie funded study by Benner et al. (2009) on educating nurses concludes that a) nurses are under-educated for the demands and complexity of their practice, and b) students are not taught in enough depth or how to use the knowledge presented in the classroom in practice.

The IOM (2010) report on the future of nursing, specifically recommends that in order to meet the health care needs for future generations, the proportion of nurses with a baccalaureate degree needs to increase from the current figure of 45 to 80 percent by 2020. As seen in table 3, although the four year BSN degree is the preferred minimal education for entry into practice, the ADN pathway, created to address the shortage of nurses during WWII, has become the most popular path for nontraditional and minority students to achieve RN status. According to Aiken, Cheung, and Olds (2009) graduates from basic nurse baccalaureate programs are over 3 times more likely to obtain graduate degrees. To meet the IOM goals and better prepare nurses to function in the complex current and future healthcare environments, programs, incentives, and funding efforts need to be geared towards moving current ADN nurses into BSN status, and inspiring and supporting diverse populations such as minorities and men into basic BSN instead of stopping short in the ADN programs. The next section of this paper will focus on teaching and learning principles as they apply to the complex and evolving world of nursing.

Table 3.

Nursing Degree, Education, and Job Opportunities.

Nursing Degree	Education & Timeline for Completion	Job Opportunities
Licensed Practical Nurse (LPN)	One year to 18 months program. Certificate. NCLEX-PN exam, licensed.	Work under the supervision of a registered nurse, advanced practice nurse, physician or dentist.
Diploma RN	3 years. Diploma (no degree). Hospital based, NCLEX-RN exam, licensed.	Direct patient care.
Associate's Degree in Nursing (ADN)	Community college. Two years of coursework, plus one year of pre-requisites. NCLEX–RN exam, licensed.	Direct patient care.
Bachelor of Science in Nursing (BSN)	Four-year college, degree in nursing. NCLEX–RN exam, licensed. Required for military, leadership and management, public health nursing, school nursing or forensic nursing.	Direct patient care. Family and community nursing, leadership, management, and research. Required to go on to graduate school.
RN to BSN Program	RNs with an ADN degree looking to complete their BSN. Takes 12-18 months of full-time study.	Same as above
Accelerated Bachelor's Degree BSN	BSN nursing program for students with a previous baccalaureate degree. Completed in 12-18 months.	Same as above
Master's Degree in Nursing (MSN, MS)	Graduate degree in nursing. Must have a BSN to get a master's in nursing. Takes 18-24 months full-time study.	Nurse practitioners (NPs), clinical nurse specialists, nurse educators, nurse midwives, nurse anesthetists and nurse administrators.
Alternate Entry Master's Programs(AEM)	Direct-entry or Master's entry BS individuals non-nursing fields. 28-36 months, get Master's degree in Nursing (MSN, MN). NCLEX–RN exam to become licensed.	Same as above
Doctor of Nursing Practice (DNP)	Clinical doctorate. Generally includes advanced practice, leadership, and application of clinical nursing research. BSN or master's required first.	Advanced practice nurses, health care leaders or executives, as well as nurse educators. (This will be minimum requirement for NP by 2015).
Doctor of Philosophy (PhD)	Prepares nurses to conduct nursing research. Must be baccalaureate or master's level first.	Conduct research programs in health care facilities, universities, and organizations. Health policy analysts, nurse executives, or nurse educators.

Note: BSN allows RNs greater opportunity to advance to positions in management, administration, and research, and to enter advanced nursing degree programs. Oregon BSN programs allow students the option of completing pre-requisite courses at community or other colleges and universities before applying as a transfer student to complete the junior and senior years of nursing coursework. Adapted from (OCN, 2010).

Principles and Practices of Learning

“Give a man a fish, feed him for a day. Teach a man to fish, feed him for a lifetime.”

Lao Tzu

Students and new graduates are required to possess high-level thinking capabilities in an effort to ensure patient safety and quality of care (Ironside, 2005). Yet, the reality of quality nursing practice in today’s complex health care delivery system has led to much debate over the past decade as to education preparation for the novice nurse beginning practice. Faculty are pressured by a need to *cover* the content in a program of nursing because of the high stakes associated with NCLEX-RN success. Despite calls for reform from the most influential organizations, the National League of Nurses (NLN), the American Association of Colleges of Nursing (AACN), and the Institutes of Medicine (IOM), the traditional model, content and mode of nursing education delivery for the majority baccalaureate programs in the US remains unchanged (Forbes, Hickey, 2009).

This *no nurse left behind* dilemma has led to enormous content saturation of nursing curricula. Students are left to struggle with increasingly complex content on what students need to learn, rather than a focus on how students learn to think. According to Ironside (2005), there is a danger with sole reliance on using linear, predictable knowledge-application embedded in conventional pedagogies. Students may inadvertently come to believe nursing practice can be understood in a prescribed, step-by-step, logical predictable manner. The consequences of such thinking may leave no room for complexity or uncertainty, two very important considerations when dealing with health issues. This next section of the paper will focus on teaching and learning theories as they relate to nursing education needs to explore ways to better educate nurses to learn their practice in an ever changing health care environment.

What constitutes nursing knowledge?

Nursing utilizes a complex blend of knowledge from many sciences in a holistic manner to address issues and concerns in the healthcare of individuals. According to Carper (1978), there are four fundamental patterns of knowing; (a) empirics, (b) personal, (c) ethics, and (d) aesthetics. Nursing knowledge development is best described by Chinn and Kramer (1999) as integration of these four fundamental patterns of knowing as illustrated in figure 4.

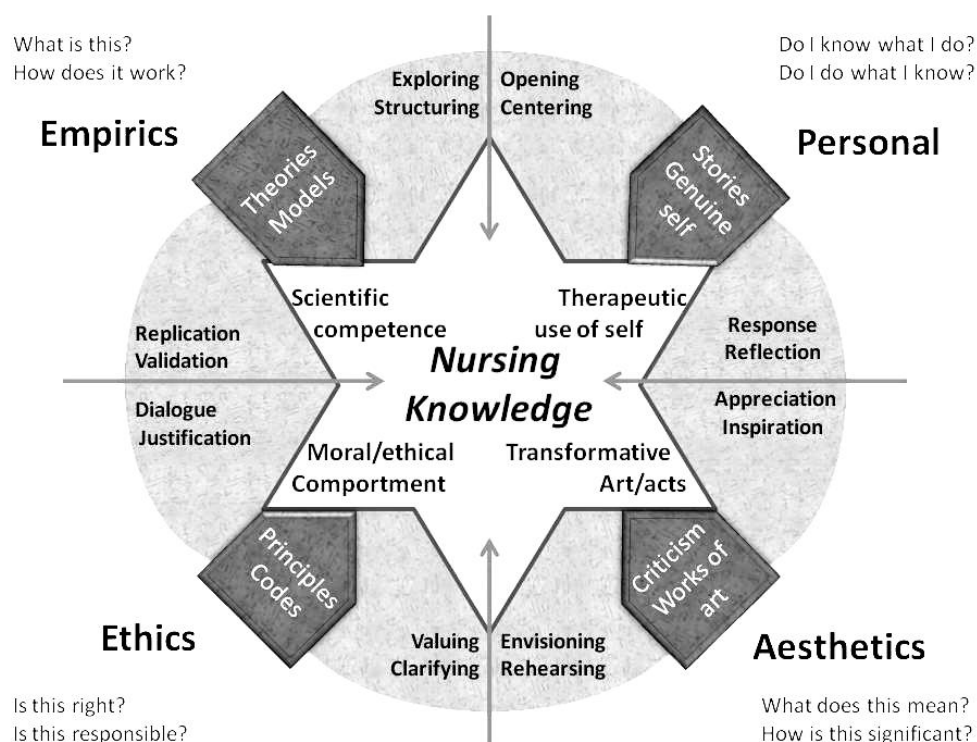


Figure 4: Represents the integration of Carper's four fundamental patterns of knowing to develop holistic nursing knowledge and thinking. Adapted from "Theory and nursing: Integrated knowledge development" by P. Chinn, and M. Kramer, 1999.

Empirics is based on the assumption that what is known is accessible through the senses; seeing, hearing, touching, and so forth. *Personal* knowing in nursing concerns the inner experience of becoming a whole, aware, genuine self. Introspection through knowing one's own self opens up possibilities that one is able to know the other(s). This awareness facilitates

meaningful shared experience and makes possible the therapeutic use of self in nursing. *Ethics* in nursing is focused on matters of obligation of what ought to be done. *Aesthetic* knowing involves a deep appreciation of the meaning of a situation, calling forth inner creative forces that transform experience into what is not yet real but possible, the transformative act-art of nursing. These patterns conceptualize a broad scope of knowing that accounts for a holistic nursing practice (Chinn & Kramer, 1999).

Benner's research on nursing expertise (1984) describes the following three general aspects of skilled performance that are reflected in practice. First is a movement from reliance on abstract principles to the use of past concrete experience as paradigms. Second, a change in the learner's perception of the demand situation, in which the situation is seen more and more as a complete whole rather than a compilation of equally relevant bits, and third, a passage from detached observer to involved performer. Benner (1984) applied the Dreyfus model of skill acquisition, shown in table 4, in a descriptive analysis of nursing practice as rendered by expert nurses in detailed narratives.

Table 4.

Dreyfus model of skill acquisition

Skill level description		General description	
Level 1	<i>Novice</i>	Rules	Focus is on immediate skill, getting it right.
Level 2	<i>Advanced beginner</i>	Rules + situation	Still trying to get the skill right but starting to relate it to other skills and/ or situations
Level 3	<i>Competent</i>	Rules + selected contexts. Accountable	Able to carry out the skill correctly and relates it to the wider picture.
Level 4	<i>Proficient</i>	Accountable & intuitive. Immediately sees WHAT	Skill is an integral part of the repertoire. Still refers to guidelines for where to go from here.
Level 5	<i>Expert</i>	Immediately sees HOW	Rapidly & accurately sums up the situation and seamlessly moves to "how to deal with it."

Note: Categories used by Benner to accurately describe nursing skill levels and the behaviors expected at each level. Adapted from "Mind over machine: The power of human intuition and expertise in the era of the computer" By H. Dreyfus, 1986.

The Dreyfus model uses five distinct clinical practice levels of competency (a) novice, (b) advanced beginner, (c) competent, (d) proficient and (e) expert, to view the acquisition of skills on a continuum. It provides a clear format for describing the competence levels of nursing practice as individual nurses progress in their profession. It serves as a situational model rather than a trait or talent model. For instance, an experienced operating room nurse considered expert in her/his area would be considered a novice in the emergency room. Novice nursing students are expected to graduate at the level of competent as a generalist in nursing. After a period of 6 to 12 months, and with the support of new nurse residency programs, they may progress to the stage of proficient in a specific department. Similar is the situation with nursing faculty; they may be experts for years in the nursing world yet, considered novice when they begin faculty appointments in academic institutions.

Only after many years of independent clinical nursing practice, and by proving themselves in multiple complex situations does the generalist nurses move onto the expert level. For example, a practitioner at the expert level in their field is much more flexible and skilled at integrating all the elements required for quality patient care including (a) clinical grasp of an entire situation using anticipatory thinking, (b) skilled and timely performance, (c) ethical care giving to patients and families, (d) skillful engagement and respectful relationships with patients, families and co-workers, (e) ethical and moral issues behaviors, (f) the management of breakdown and technical hazards, (g) communication and negotiation skills, and, (h) understanding of linkages between larger systems and the patient (Benner, P., Tanner, C.A., & Chelsa, C. A., 1996).

Conceptual Learning

Conceptual learning is defined by Timpson & Bendel-Simso (1996) as a process by which students learn how to organize information in logical mental structures which therefore challenges them to become increasingly skilled at thinking. Conceptual teaching and learning are complementary with the constructivist paradigm in fostering critical thinking and deep understanding because students connect new thoughts to past learning, apply concepts in multiple contexts, and develop interrelated concepts (Erickson, 2002). Teaching nursing in a concept-based curriculum coupled with conceptual learning approaches may be the best approach to educating nursing graduates prepared to respond to a rapidly changing profession (Giddens, Brady, 2007). The American Association of Colleges of Nursing (AACN) recommended framework for conceptual curricular elements in all BSN nursing programs are outlined in Table 5. As the most influential accrediting body for the nursing profession, adoption of this document by the AACN has spearheaded many programs to consider curricular redesign.

Nursing programs that adopt a conceptual model for curriculum need to be prepared for a paradigm shift for faculty accustomed to a traditional, highly structured curriculum requiring active learning activities that are student-centered and foster conceptual learning. Many nurse educators may be hesitant to eliminate the lecture format as a means to convey basic concepts to large numbers of students yet, contextual learning, the marriage of theory and practice, is a vital component of nursing education. Various strategies such as small group projects, integration of case examples or clinical situations, problem-based learning, and case study inquiry can be incorporated into didactic classes along with lectures to increase student engagement and facilitate their learning (Forbes & Hickey, 2009). These activities must be purposefully utilized; unless students possess at least a rudimentary *conceptual* understanding of the phenomenon they

are investigating, the activity could be conceived as little more than busy work (Novak, & Cañas, 2007).

Table 5.

The Essentials of Baccalaureate Education for Professional Nursing Practice

Essential	Conceptual Curricular Element Framework with Rationale
I. Liberal Education for Baccalaureate Generalist Nursing Practice	A solid base in liberal education provides the cornerstone for the practice and education of nurses.
II. Basic Organizational and Systems Leadership for Quality Care and Patient Safety	Knowledge and skills in leadership, quality improvement, and patient safety are necessary to provide high quality health care.
III. Scholarship for Evidence Based Practice	Professional nursing practice is grounded in the translation of current evidence into one's practice.
IV. Information Management and Application of Patient Care Technology	Knowledge and skills in information management and patient care technology are critical in the delivery of quality patient care.
V. Health Care Policy, Finance, and Regulatory Environments	Healthcare policies, including financial and regulatory, directly and indirectly influence the nature and functioning of the healthcare system and thereby are important considerations in professional nursing practice.
VI. Interprofessional Communication and Collaboration for Improving Patient Health Outcomes	Communication and collaboration among healthcare professionals are critical to delivering high quality and safe patient care.
VII. Clinical Prevention and Population Health	Health promotion and disease prevention at the individual and population level are necessary to improve population health and are important components of baccalaureate generalist nursing practice.
VIII. Professionalism and Professional Values	Professionalism and the inherent values of altruism, autonomy, human dignity, integrity, and social justice are fundamental to the discipline of nursing.
IX. Baccalaureate Generalist Nursing Practice	The baccalaureate graduate nurse is prepared to practice with patients, including individuals, families, groups, communities, and populations across the lifespan and across the continuum of healthcare environments. The baccalaureate graduate understands and respects the variations of care, the increased complexity, and the increased use of healthcare resources inherent in caring for patients.

Note: The essentials address IOM's recommendations for the core knowledge of all health care professionals. Emphasis is on concepts such as patient centered care, interprofessional teams, evidence based practice, quality improvement, patient safety, informatics, clinical reasoning/critical thinking, genetics and genomics, cultural sensitivity, professionalism, and practice across the lifespan in an ever changing and complex healthcare environment. Adapted from "The essentials of baccalaureate education for professional nursing practice," AACN, 2008.

Learning Theories: Opportunities for Nursing Education

Dewey, Bruner, and Vygotsky all contributed to current perspectives on contextual learning for conceptual understanding. Dewey's (1938) belief in the unity of theory and practice argues that a theory of experience is what is needed to move beyond the paradigm war between the two, theory and practice. Experience arises from the interaction of two principles; continuity and interaction. Continuity is that each experience a person has will influence their future, for better or worse. Interaction refers to the situational influence on one's experience. No experience has preordained value, what may be a rewarding experience for one student, could be a detrimental experience for another. An understanding of the students' past experiences is important in order to design liberating educational experiences which fulfill their learning needs.

According to Bruner (1996), mind is an extension of the hands and tools that you use and the jobs to which you apply them. The concept *knowing as doing* applies as a learning strategy for nurses because many of the procedures nurses *do* with and about patients in the clinical setting. For example, showing a student nurse how to insert an intravenous line and attach it to tubing is one example of this perspective; no matter how much is explained, the actual *doing* of this task is in the learning. Skill is therefore a way of dealing with things. Knowledge helps only when it descends into habit (Bruner, 1996). The clinical setting for nursing education affords opportunities for students to develop best practice habits because student nurses have ample opportunity to model the behaviors and actions of staff nurses in the social context of the clinical nursing environment. One example would be having the organic habit of actually washing your hands before entering a patient room as compared to simply knowing that is prevents spread of disease.

Vygotsky believed in learning as a social process. While working with children on learning, he developed the theory of a zone of proximal development (ZPD) which describes the difference between the child's capacity to solve problems on their own and the capacity to solve them with assistance. This concept of the ZPD posits the limitless nature of human potential under the practical limits of quality social interactions and environment (Dalms, Geonnotti, Schilk, Wetzel, & Zulkowsky, 2008). This zone of proximal development is further defined by Cole, John-Steiner, Scribner, and Souberman (1978) as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 85). In theory, then, so long as a person has access to a more capable peer, any problem can be solved. The concept *is* an active part of the intellectual process. These ideas regarding collaboration are essential for nursing education and nursing practice for students as well as for practicing nurses.

Opportunities for individual learning occur in nursing programs during integrated experiential learning (IEL). These clinical opportunities provide students with immediate, supportive feedback as they work side-by-side with experienced staff nurses and clinical faculty in the care of patients. The experiences of working as a student nurse in the clinical setting is so valued to the education of nurses that clinical practice hours, up to 1,000 in most Oregon programs, is mandatory by the Oregon State Board of Nursing (OSBN). A recently published Carnegie Foundation supported study on educating nurses by Benner, Sutphen, Leonard, & Day (2010) found that educational pedagogies practiced in the clinical setting were the strongest element for preparing students in nursing education today. The following statement from a nursing student sums up the value of this learning environment:

“I learn better in a clinical setting. Once I actually do it, I have a better understanding of it, and plus I think that often you have to make a lot of different adjustments for different things, depending on each different patient. You can’t really do that in a classroom setting. You can think about what would it be if this patient was this way or that way, but once you actually encounter it, then it sticks with you. You won’t forget it” (Benner, Sutphen, Leonard, & Day, 2010, p. 93).

The ideal situation in nursing education would be to assure that this type of learning is available for all students. The reality is that consistency in design and implementation of such experiences varies in quality according to factors such as a) clinical site availability, b) patient population, c) staff nurse teaching skill set, d) design of clinical learning activities, and e) skill of clinical instructor in integration and coordination of the experience. To augment clinical experiences and provide these types of experiential opportunities, many schools of nursing have incorporated high fidelity simulation; recreating a case-based clinical experience in the lab setting with computer assisted manikins. This pedagogic strategy is ideal in providing students with exposure to unfolding situations to practice in an environment that does not allow for patient or student harm (Overstreet, 2009). Qualitative research on students’ experience of simulation by Lasater (2007) found that high-fidelity simulation has potential to support and affect the development of clinical judgment in nursing students and to serve as a value-added adjunct to their clinical practica.

The ideas of, Dewey, Bruner and Vygotsky, stressing the concepts of communication, collaboration, and learning communities are fundamental factors in contextual learning of nursing knowledge. Although clinical immersion courses coexist with theory courses in schools of nursing, the logistics of securing relevant clinical sites which match current theory course content is virtually impossible to do. Even with the use of high fidelity simulation environments to augment these deficiencies, the faculty in didactic courses needs to be more engaged in the development and implementation of conceptually focused learner-centered strategies.

Educational Research

This next section will discuss the research process and research paradigms as avenues for discovering evidenced-based student-centered conceptual learning strategies for nursing education.

The research Process

According to Creswell (2008), research is defined as a process used to collect and analyze information to increase our understanding of a topic or issue in order to add to our knowledge, improve practice, or inform policy. Although two major approaches to research exist, quantitative or theory testing, and qualitative or participant perspective, most research studies consists of a mix of both methods. The six essential steps he identified in conducting research can be further separated into qualitative and quantitative characteristics as in table 6:

Table 6.

Research Process Steps, Related Tasks, and Quantitative & Qualitative Characteristics

Step	Task	Quantitative Characteristics	Qualitative Characteristics
1	Identify a research problem	Description and explanation oriented	Exploratory and understanding oriented
2	Reviewing the literature	Major role: justification for the research problem and specification for the need for the study	Minor role: justification for the research problem
3	Specifying a purpose for research	Specific and narrow Measurable, observable data	General and broad Participants' experiences
4	Collecting data	Predetermined instruments Numeric data, large numbers of individuals	General, emerging from text or image data, smaller number of individuals or sites
5	Analyzing and interpreting the data	Statistical analysis, description of trends, comparison of groups, or relationships among variables. Results comparison with predictors and past studies.	Text analysis, Description analysis, and thematic development. The larger meaning of findings
6	Reporting and evaluating research	Standard and fixed, Objective and unbiased	Flexible and emerging, reflexive and biased

Note: These steps evolved over the years from the well known *scientific method*. Adapted from "Educational Research: Planning, conducting, and evaluating quantitative and qualitative research," by J. Creswell, 2008.

Identify a research problem. Research priorities identified by the National League of Nursing (NLN) (2003) are the development and evaluation of new educational pedagogies which positively affect student outcomes as well as move faculty away from content coverage to student learning. Conclusions from a Blue Ribbon Panel on priority research in nursing education identified by Ard and Valiga (2009) developed a model for the three most significant areas in need of research; patient-centered (case based) teaching, new clinical educational models, and nursing educational system re-design. Two research questions I identified as useful for my topic were; a) What strategies do students use to integrate classroom teaching with clinical practice? and b) To what extent is the development of clinical imagination being fostered in clinical assignments?

Benner, Sutphen, Leonard and Day (2010) suggest faculty and students make four shifts in their thinking about nursing education:

- “1. From a focus on covering decontextualized knowledge to an emphasis on teaching for salience, situated cognition, and action in particular situations.
2. From a sharp separation of classroom and clinical teaching to integrative teachings in all settings
3. From an emphasis on critical thinking to an emphasis on clinical reasoning and multiple ways of thinking that include critical thinking.
4. From an emphasis on socialization and role taking to an emphasis on formation”
(Benner et. al. p. 89.)

Recommendations from the Carnegie supported national study on nursing education reform by Benner et. al. (2010) support learning pedagogies involving the use of patient cases such a) unfolding case studies, b) narrative structures for making a case, c) simulation exercises, and d) patient interviews as ways to scaffold nursing courses around patient care. Nursing faculty would greatly benefit from research studies in which process and outcome data on

implementation of the new pedagogies for nursing education. Suggested questions for further pedagogical research from the Benner et. al. (2010) study include:

What are the styles and patterns of highly successful, and unsuccessful, approaches to teaching and learning for good nursing practice?

What kinds of projects or educational tools (such as unfolding cases, simulations) have the most significant impact on student learning?

How do teachers learn and demonstrate exemplary teaching for a sense of salience at each level of nursing education?

What are successful strategies of integration of classroom and clinical teaching and learning of nursing, natural sciences, social sciences, and humanities?

What knowledge from cross-professional education could be imported and adapted for nursing education?

Reviewing the literature. Primary reasons for conducting a literature review are to identify gaps in the available research on a topic, and act as a compass to guide your research (Hesse-Biber, 2010). Creswell (2008) describes five common steps to follow the literature review process:

1. *Identify key terms* to use in your search for literature.
2. *Locate literature* about a topic by conducting several types of materials and databases, including those available at an academic library and on the Internet at Web sites.
3. *Critically evaluate and select the literature* for your review.
4. *Organize the literature* you have selected by abstracting or taking notes on the literature and developing a visual diagram of it.
5. *Write a literature review* that reports summaries of the literature for inclusion in your research paper.

Key terms for research in my topic may include: case study, problem based learning (PBL), conceptual learning strategy, concept mapping, nursing education, inquiry learning, unfolding case study, and critical thinking. Published literature reviews may provide a good place to start searching the literature as well. For example, a systematic review of literature by Yuan, Williams, and Fan (2008) using the terms problem-based learning, critical thinking, and nursing

education found no supportive evidence on developing nursing students' critical thinking through PBL indicating a gap in the literature and need for further research. Organizing the literature review data retrieved from primary and secondary research resources, meta-analysis, books, and journals from an academic library into a visual grid is invaluable for the review process. This process of abstracting the data by date, identifying information and source, research problem, research questions or hypotheses, study type, data collection procedure, and results of the study will provide an organized aid for writing up the literature review (Creswell, 2008).

Specifying a purpose for research. The research question will be driven by results from the literature review process which identifies gaps and needs for further research. In educational research, the purpose of research questions is to narrow and focus purpose statements. The elements in these questions may differ according to whether the research is quantitative, qualitative, or mixed in nature (Creswell, 2008). My interest lies in the students' experience with a conceptual learning strategy; therefore my research question may end up more qualitative in nature. Credibility and usefulness of the strategy may be tied to quantitative measures; again, the literature review will provide much information by which a more focused research question will develop.

Collecting data. The data collection process begins with informed consent from a representative sample of study participants. Instrument design strategies will depend on the type of study; qualitative, quantitative, or mixed methods, and best method for obtaining information which addresses the research question(s). Quantitative strategies include surveys, experimental/quasi-experimental, and correlation. Qualitative strategies may involve grounded theory, ethnography, and narrative modes of inquiry.

Analyzing and interpreting data. Qualitative data analysis is labor-intensive process. Although computerized systems are available for transcription of interview tapes and sorting of text into a database, they cannot code or analyze the data for you. Quantitative data analysis involves statistical computerized programs such as SPSS (Creswell, 2008).

Reporting and evaluating research. Regardless of the research design, the results need to be organized and presented in a logical format which addresses the purpose and research questions and meets the specified standards for quality and process. Report data should thread through the literature and address the specified audience as well as, specify limitations, make recommendations for action, and offer suggestions for further research.

Research Designs Possibilities and Conclusion

Possible research designs for the study of conceptual learning through cases could include surveys, ethnographic, narrative, mixed methods, or action research. According to Creswell (2008), the action research design is an applied focus research process, similar to mixed methods research, which addresses a specific, practical issue and seeks to obtain solutions to a problem. The purpose of participatory action research is to improve the practice of education by studying issues or problems faced in the educational setting and bring about change in practices. It may well be a good choice of inquiry considering issues related to personal changes nursing educators must make to improve current or learn new pedagogical strategies. *Just because a person is a nurse, that does not make them a nursing educator.* Action research may be one way to provide not only new insight into pedagogical strategy but, insights into the process and change many nurse educators seek. Further investigation of the topic of conceptual learning with case based strategies with literature review will provide the guidance needed for research question(s) development and research design choices to be revealed in the Specialty paper.

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